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Translation of abstract for cover sheet

54 Measuring instrument for determining menstruation

The invention relates to a measuring instrument 1 for determining menstruation. It comprises a housing 2 having an electronic measured value processing device 3 and an electronic measured value display device 4 as well as a sensor 14 which is connected to the housing 2 by means of a cable 13 and whose electronic temperature detector 10 is actively connected to the measured value processing device 3 (Figure 3).

Description

The invention relates to a measuring instrument for determining menstruation.

It is known practice to ascertain a woman's fertile days by measuring the body temperature, since there is a rise in body temperature during ovulation. In this context, the fertility cycle extends to a period of six days before ovulation and two days after ovulation. The measuring instruments known for ascertaining this fertility cycle have the disadvantage that they are relatively tricky to handle and are a nuisance to use on account of their external shape, so that although inherently desirable, these measuring instruments for the purpose of natural birth control without taking chemical preparations or without mechanical contraceptive means, which are frequently also experienced as being unpleasant, are not used.

The object of the invention is to provide a measuring instrument for determining menstruation which has an agreeable external shape, is easy to handle and allows the operator to ascertain the fertility cycle reliably.

According to the invention, the object is achieved by a housing containing an electronic measured value processing device and an electronic measured value display device as well as a sensor which is connected to the housing by means of a cable and whose electronic temperature detector is actively connected to the measured value processing device.

Further features of the invention are described in the dependent claims.

The drawing shows an illustrative embodiment of the invention which is explained in more detail below. Specifically,

Figure 1 shows a front view of the measuring instrument according to the invention,

Figure 2 shows a sectional transverse view of the measuring instrument shown in Figure 1,

Figure 3 shows the measuring instrument shown in Figure 1 in an operating position, and

Figure 4 shows an enlarged illustration of the measured value display section of the measuring instrument.

The measuring instrument 1 comprises a housing 2 containing an electronic measured value processing device 3 and an electronic measured value display device 4 as well as a sensor 14 which is connected to the housing 2 by means of a cable 13 and whose electronic temperature detector 10 is actively connected to the measured value processing device 3 (Figure 1 to Figure 3). The measured value display device 4 has an associated measured value display scale 17. This comprises a vertical temperature scale 5 and a horizontal bar scale 6 whose temperature bars 7 are each depicted on the basis of the noted day when temperature measurement is carried out. The temperature bars 1 can be formed from light-emitting diodes, liquid crystal displays or the like. Above the bar scale 6, there is a display 8 for the fertility cycle, said display being associated with the bar scale 6. The display 8 can also comprise light-emitting diodes, a liquid crystal display or, alternatively, an application of colour. Next to the display 8, there is also a display 9 formed on the measured value display scale 17 for displaying temperature using liquid crystal displays.

The measured value processing unit 3 can be in the form of an electronic microchip which is connected to a battery 18 and to the measured value display device 4. As Figure 2 shows, the battery 18 is located in a recess 23 in the grip part 19 of the housing 2, and the recess 23 can be closed off by means of a cover 20. The electronic measured value processing device 3 can also be arranged in the grip part 19 of the housing 2. Alternatively, it is possible for the measured value processing unit 3, comprising a microchip, and the measured value display device 4, which has the LCD elements, to be designed as a laminar measurement

module 24 situated between the viewing surface of the measured value display scale 17 and a channel-like recess 21 in the housing 2.

The channel-like recess 21 is used for holding a laminar rod 11 of a sensor 14. One end portion of the laminar rod 11 has an electronic temperature detector 10 on it, and its other end portion has a gripping element 12 on it. When the measuring instrument 1 is not in use, the rod 11 of the sensor 14 is located in the channel-like recess 21 in the housing 2.

On one side edge of the rod 11, two recesses 16 are in the form of contact elements 15 which can be used to turn on the electronic measured value processing device 3 and the electronic measured value display device 4 when the rod 11 is pulled out of the recess 21, and to turn them off when it is inserted into the recess 21. In this case, resiliently elastic contact elements for the measured value processing device 3 and for the measured value display device 4 can be provided in the recess 21 and can be brought into active engagement with the recesses 16.

The body temperature measurement taken on the individual measurement days is stored in a memory connected to the measured value processing device 3 and is displayed as a bar scale 6 on the subsequent measurement days, or else when the measured values are intended to be displayed.

The measuring instrument 1 permits extraordinarily short measurement times and is easy to use. The measurement is expediently always taken under the tongue. During the measuring process, the individual temperature bars 7 displayed on the bar scale 6 flash, and present a stable image again at the end of measurement. In the event of body temperatures possibly being higher, e.g. on account of an illness, these temperatures are displayed on the display 9 using the liquid crystal displays, but are not taken into account by the measured value processing device. This means that excessive temperatures related to illness do

not threaten the exact measurement of the fertility cycle.

Patent Claims

1. Measuring instrument for determining menstruation, characterized by a housing (2) containing an electronic measured value processing device (3) and an electronic measured value display device (4) as well as a sensor (14) which is connected to the housing (2) by means of a cable (13) and whose electronic temperature detector (10) is actively connected to the measured value processing device (3).

2. Measuring instrument according to Claim 1, characterized in that the measured value display device (4) has an associated measured value display scale (17).

3. Measuring instrument according to Claims 1 and 2, characterized in that the measured value processing unit (3) is in the form of an electronic microchip which is connected to a battery (18) and to the measured value display device (4).

4. Measuring instrument according to Claim 3, characterized in that the battery (18) is arranged in a recess (23) in the grip part (19) of the housing (2), and said recess (23) can be closed off by means of a cover (20).

5. Measuring instrument according to Claim 3, characterized in that the electronic measured value processing device (3) is arranged in the grip part (19) of the housing (2).

6. Measuring instrument according to Claim 5, characterized in that the electronic measured value processing device (3) is cast into the grip part (19).

7. Measuring instrument according to Claims 1 to 6, characterized in that the sensor (14) comprises a laminar rod (11) which has an electronic temperature detector (10) on one end portion and a gripping element (12) on its other end portion.

8. Measuring instrument according to Claim 7, characterized in that, when the measuring instrument (1) is not in use, the rod (11) is stored in a

channel-like recess (21) in the measuring instrument's housing (2).

9. Measuring instrument according to Claim 8, characterized in that the rod (11) has contact elements (15) on it which can be used to turn on the electronic measured value processing device (3) and the electronic measured value display device (4) when the rod (11) is pulled out of the recess (21), and to turn them off when it is inserted into the recess (21).

10. Measuring appliance according to Claim 8, characterized in that the contact elements (15) are in the form of a recess (26) and can be brought into active engagement, in the recess (21), with resiliently elastic contact elements for the measured value processing device (3) and for the measured value display device (4).

11. Measuring instrument according to Claim 2, characterized in that the measured value display scale (17) has a vertical temperature scale (5) and a horizontal bar scale whose temperature bars (7) are each depicted on the basis of the measurement day when a temperature measurement is carried out.

12. Measuring appliance according to Claim 11, characterized in that the temperature bars (7) are formed from light-emitting diodes or liquid crystal displays.

13. Measuring instrument according to Claims 2, 11 and 12, characterized in that the bar scale (6) has an associated display (8) for the fertility cycle.

14. Measuring instrument according to Claim 13, characterized in that the display (8) is formed by light-emitting diodes, liquid crystal displays or an application of colour.

15. Measuring instrument according to Claims 2, 11 to 14, characterized in that a display (9) for displaying temperature is formed on the measured value display scale (17) using liquid crystal displays.

16. Measuring instrument according to Claims 1 to 15, characterized in that the measured value processing

unit (3) has a chronometer which is used to set the measurement series of the temperature bars (7) when the temperature detector (10) takes the first temperature measurement.

17. Measuring instrument according to Claim 16, characterized in that the measured value processing device (3) has a memory for the bar scale (6).

18. Measuring instrument according to Claims 1 to 17, characterized in that the measured value processing unit (3), comprising a microchip, and the measured value display device (4), which has LCD elements, are arranged as a laminar measurement module (24) between the viewing surface of the measured value display scale (17) and the channel-like recess (21).